

***2004 Annual Stakeholder Report:***

***Promoting the Stewardship of Our Forests for a  
Healthy Environment, Economy and Society***



**Massachusetts  
Department of Conservation and Recreation  
Bureau of Forestry**





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Ellen Roy Herzfelder	Secretary of Environmental Affairs
Stephen Pritchard	Acting Commissioner
James DiMaio	Chief Forester



### ***2004 Annual Stakeholder Report: Promoting the Stewardship of Massachusetts' Forests for a Healthy Environment, Economy and Society***

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**Thanks** to all the staff of the Bureau of Forestry for their dedication and contributions to our mission, without which this report would not be possible.

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Department of Conservation and Recreation  
Division of State Parks and Recreation  
Bureau of Forestry  
2004 Annual Forestry Stakeholder Report

Message from Chief Forester  
Jim DiMaio

Welcome to your 2004 Annual Stakeholder Report for the Massachusetts Department of Conservation and Recreation's Bureau of Forestry: ***Promoting the Stewardship of Our Forests for a Healthy Environment, Economy and Society.***

Coming home to Massachusetts and serving as your Chief Forester has been one of my most rewarding and humbling experiences. During the past eight months, I have learned a great deal and have made a number of observations. Some of the highlights of my discoveries are that the forests of Massachusetts are a remarkable ecological restoration story; the Commonwealth has a remarkable treasure of ecologically diverse public lands; there is great interest in state and private forested lands; this interest is sophisticated and well informed; much progress has been made to protect and maintain open space, manage forest lands in a sustainable manner, meet long-term objectives through silvicultural systems, and meet important environmental legislation such as the Forest Practices Cutting, Wetlands Protection, and Endangered Species Acts. I also recognize that much work needs to be done such as maintaining the health of our forests, continuing to improve how forests are managed, addressing natural resource issues, proposing legislation which will assist in the management of our forests, and improving the use and economics of our timber resources.

This stakeholder report; "***Promoting the Stewardship of Our Forests for a Healthy Environment, Economy and Society***" contains highlights of our program accomplishments over the past year. Personally, I am pleased with and proud of the Bureau's employees and their performance in delivering our 2004 program. A lot of effort went into this year's accomplishments. I also want to recognize the countless partners, cooperators, and interested publics who have taken some of their precious time to assist the Bureau throughout the year. Without their support, personal contributions, encouragement, and constructive criticism we would not have made as much progress as we have.

Now, with considerable progress behind us and much work left to be done, I would like to share with you my high priority goals and objectives for FY 2005:

**Statewide Priorities:**

- Improve communication and relationships among landowners, foresters, wood producing industry, harvesters, environmental and conservation groups, and bureau employees.
- Improve delivery of bureau services to the public.
- Improve the efficiency of implementing the Endangered Species Act.
- Make progress toward the use of Massachusetts' forest biomass for bioenergy.
- Assist more communities, with special emphasis on the largest and most densely populated ones, in developing sustained urban and community forestry programs.
- Develop, in collaboration with interested publics, a state sudden oak death and emerald ash borer response plan to address these potentially catastrophic forest pests.

**Private Forests Priorities:**

- Increase in the amount of private forests protected from development and managed for long-term multiple objectives.
- Improve the compliance with the Forest Cutting Practices Act and associated laws and regulations.

**State Forest Management Priorities:**

- Improve management of our State Forest's natural resources including a high sensitivity and awareness for water quality, biodiversity, ecological restoration, cultural resources, and recreation.
- Improve our staffing and fleet resources.

I invite you to participate with us in recognizing our FY 2004 accomplishments and working with us to achieve our FY 2005 program of work, goals and priorities.

Sincerely,

Jim DiMaio  
Chief Forester

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## Who Are We?

**The Massachusetts Bureau of Forestry** is a state agency within the Department for Conservation and Recreation (DCR), Division of State Parks and Recreation that serves land-owners, forestry businesses, forest workers, communities and the general public. We promote the sustainable use, stewardship and management of our vital public, private and community forest resources.

We accomplish our mission through the work of six programs:

- Service Forestry,
- State Forest Lands Management,
- Forest Health,
- Urban and Community Forestry,
- Forest Marketing and Utilization, and
- Forest Legacy.

For more details see [www.mass.gov/dem/programs/forestry/index.htm](http://www.mass.gov/dem/programs/forestry/index.htm).

After being 80% deforested in the early 1800's, Massachusetts has made a remarkable recovery. Currently, 62% of land Massachusetts (3.1 million acres) is forested. Eighty-four percent of this (2.6 million acres) is classified as timberland, capable of growing timber. The vast majority of forest land (76%) is privately owned by an estimated 212,600 individuals and enterprises (Forest Resources of Massachusetts, 2000). A growing number of these private land owners are engaging in long-term management planning. Massachusetts also has a population (6.4 million people) most of whom live in urban communities. Our urban areas have an estimated 86.8 million trees forming an average urban tree cover of 25.3% with an estimated total value of \$55 billion (State Urban Forest Data).

**Table 1: Ownership of MA Forest Land**

Total Forest Land 3.1 million acres	Acres	Percent	
State owned	500,000	16 %	Green Certified
Municipally owned	245,000	8 %	
Privately owned	2,355,000	76 %	

**Table 2: Management Plans on Private Forest Land**

Private Forest Lands 2.355 million acres	Acres	Percent
Ch. 61/61A Plans	346,564	15 %
Stewardship Plans	225,400	9.5 %

## Success Stories from the Past Year:

### Our Forests: The State's Green Economic Engine

Imagine the fall without the foliage. Imagine Boston without trees. Imagine building a house without lumber. Imagine pancakes without maple syrup. And imagine Massachusetts without forests or forestry.

Our private, public, urban and community forests provide more dollars to the State's economy than most people realize.

- Wood products harvested from private forests generate \$580 to \$845 million each year (Campbell, 2000). When we include the value added industries of furniture making, paper and construction, this jumps to \$3 billion (US Department of Commerce).
- DCR's state forest lands produced approximately \$2.1 million in revenue last year alone.
- Hunting, fishing, and wildlife viewing, all forest dependent activities, generate an estimated \$1.25 billion in Massachusetts (US Fish and Wildlife).
- Tourism generates an estimated \$13 billion to the State's economy (Office of Travel and Tourism). One-third of this, or \$4.3 billion, can be directly attributed to our forests and open spaces.
- Our forests provide ecosystem services including climate regulation, freshwater supply, stormwater mitigation, nutrient regulation, biodiversity, soil retention and aesthetics valued at \$2.9 billion (Mass Audubon, 2003).
- Massachusetts 86.8 million urban trees also provide significant energy savings, stormwater management, air and water filtration, wildlife habitat, temperature reduction and social and psychological benefits.
- Maple syrup production and Christmas tree sales are worth \$9.6 million in retail revenues to our rural communities.

**Add it all up and Massachusetts forestry contributes at least \$12 billion to the Commonwealth's economy each year.**

## State Forest Lands Go Green!

Continuing its leadership in the areas of responsible forest management and independent certification, Massachusetts became the first state to have all its state-owned forest lands (over 500,000 acres) receive a comprehensive Green Certification from the Forest Stewardship Council (FSC). The Bureau of Forestry **State Forest Lands Management Program** manages most of this land, over 285,000 acres.



The goals of this Green Certification are to:

- a) **Improve forest management practices** on state forest lands. The Bureau of Forestry will manage these forests to provide the multiple benefits of soil, air and water protection; biodiversity; recreation; and an increasing supply of high value forest products. Forest product harvesting will be done in a socially responsible, economically viable and environmentally beneficial manner.
- b) **Identify opportunities for coordination** of forest management among the different state agencies. State agencies will coordinate on eco-regional assessments, the designation of “forest reserves;” rare species and archaeological site policies; inventories; and forest type mapping.
- c) **Encourage improvements in private forest management**, by providing examples and building market incentives for sustainable management practices. Since the state’s certification, one landowner cooperative, a timber company and two sawmills have also become certified.
- d) **Improve public understanding** of and confidence in active forest management practices on state forest lands, by providing an independent, FSC-accredited audit of those practices.
- e) **Increase timber revenues** through increasing sustainable forestry and access to new markets. Once management plans and other requirements of certification are in place, we may be able to increase the sustainable timber revenues through green products marketing while simultaneously meeting green certification sustainability conditions and requirements.

## Bureau of Forestry Improves Cutting Plan Form

Beginning this year, the Bureau’s **Service Forestry Program** implemented changes to the Massachusetts General Law (MGL) Chapter 132, Forest Cutting Plan Form after a substantial public review involving many stakeholders in the forestry sector.

These changes add educational elements to the forest cutting plans with the dual goal of helping landowners make educated harvesting decisions and creating a more efficient review process for Service Foresters. The main improvements included:

- Changing the landowner’s objectives to either Long-term Management (LT) or Short-term Harvest (ST) and adding a landowner information section that explains the difference between these two approaches;
- Requesting new information about the credentials of the plan preparer, forester license number and rare species;
- Adding clarifying statement, explaining that Service Foresters do not verify volume and value of forest products cut; and
- Modifying the narrative page to the preparer.

Following the implementation of these changes on January 1, 2004, the Bureau tracked the new data that these improvements generated. Based on this, we learned that most cutting plans have a long-term objective (74 % of the plans, 71% of the acreage). Licensed Foresters are preparing 71 % of the cutting plans for 71% of the acreage. Licensed Foresters are preparing the vast majority of long-term plans (83% of the plans and 86% of the acreage).

The good news? This preliminary data suggests that, consistent with Bureau of Forestry recommendations, landowners are using Licensed Foresters and making choices for long-term management to greater degree than they did in the past.

**Table 3: Summary of New Cutting Plan Form Information**

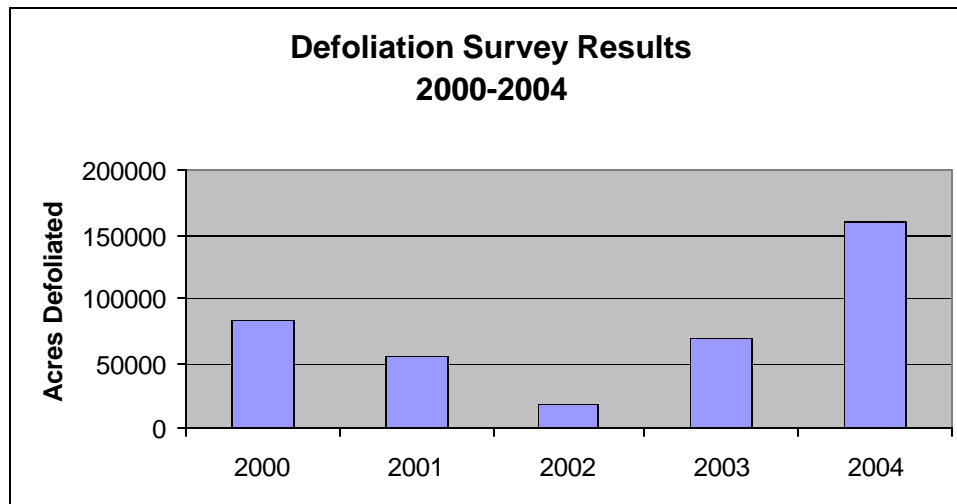
<b>Summary Statistics Jan. 1 to June 30 2004</b>	Plans Prepared by Licensed Foresters	Plans Prepared by others	Plan Acres Prepared by Licensed Foresters	Plan Acres Prepared by others	Total Plans
Long-Term Plans	174 (83%)	35 (17%)	6,503 (86%)	1,052 (14%)	209 (74%)
Short-Term Plans	27 (37%)	46 (63%)	1,105 (36%)	1,993 (64%)	73 (26%)
All Plans	201 (71%)	81 (29%)	7,608 (71%)	3,045 (29%)	282

## Forest Health Program Completes Aerial Survey

Each year, the Bureau of Forestry **Forest Health Program** conducts an aerial survey as part of a cooperative agreement with the USDA Forest Service. These surveys document forest disturbances throughout the state caused by insects, diseases, weather events and other environmental factors.

The annual survey is scheduled for June when most of the damage from the major defoliators has reached its peak. Other special surveys may be scheduled to document damage caused by specific pests. The information collected is then used by the Forest Service and the Forest Health Program as the basis for ground surveys. We also provide it to municipal tree officials for use in budgeting for suppression activities should they be warranted.

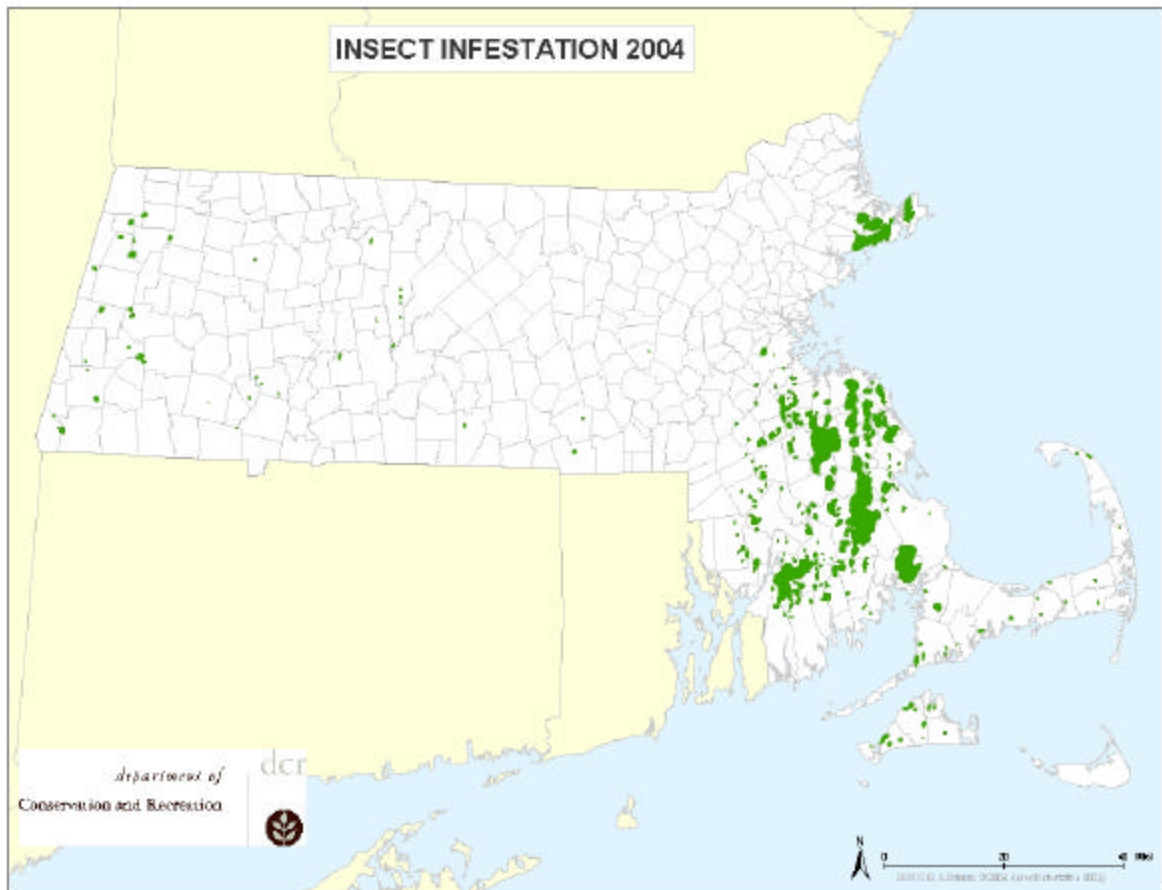
**Figure 1: Acres Insect Defoliate over the Past Five Years**



This year, the survey required 22.9 hours of flight time and documented approximately 159,290 acres of visible defoliation. The majority of this defoliation was caused by three

insects – Winter Moth, 78,133 acres; Forest Tent Caterpillar, 55,917 acres; and Pine Needle Miner, 10,931 acres.

**Figure 2: Map of 2004 Insect Defoliation**



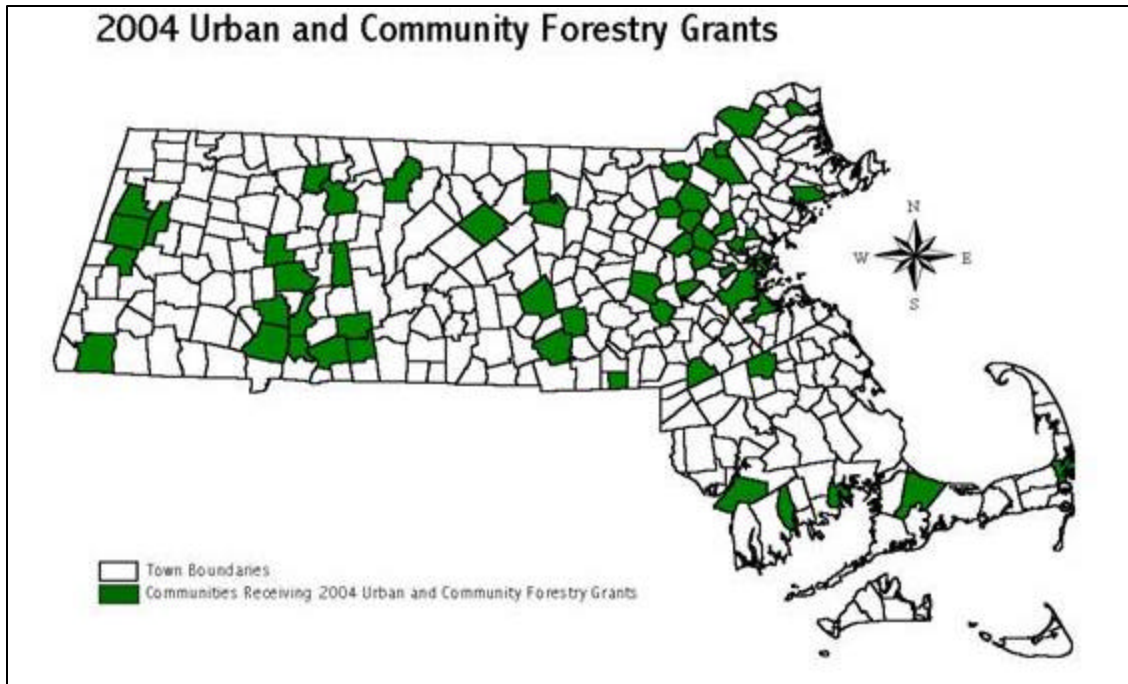
## Challenging Communities to Do More with Less

**The Massachusetts Urban and Community Forestry Program** (UCF) offered a record six different challenge grant opportunities to communities around the state this year, awarding a total of \$529,000 to 81 municipalities and local organizations. These grant programs included:

- **Serving the Most Under-Served:** With federal funding, the UCF Program made larger grants to five of the state's most densely developed and under-resourced cities. These funds will help build the capacity of these large cities to manage their urban forests for the long-term and serve all of their diverse residents. The DCR awarded more than \$160,000 to Worcester, Springfield, Lowell, Lawrence and Fall River.
- **Planting Community Trees, Creating Healthy Neighborhoods:** The Urban and Community Forestry Program made 41 "Mass ReLeaf" planting grants totaling \$200,000 to plant over 1,500 large caliper trees.

- **Building Local Capacity for Excellent Urban Forestry:** DCR awarded \$102,000 through 14 “Planning and Education Grants” to fund everything from community tree management plans to creating a local urban forestry public awareness campaigns.
- **Preserving our Heritage:** The UCF Program challenged 11 communities to provide professional care to some of the State’s oldest and most significant “Heritage Trees” through \$35,000 in federal grant funds.

**Figure 3: Map of Communities Receiving 2004 Urban Forestry Grants**



- **Tapping into Libraries:** Recognizing that local libraries are a vital and productive community resource, four libraries across the state were awarded \$12,000 in small grants to build their urban forestry resources and develop innovative educational programs.
- **Healthy Forests Make Healthy Watersheds:** In a new program, DCR made challenge grants to communities and non-profits to develop tools that will promote the role of public, private and community trees and forests in protecting, improving and restoring the health of our watersheds.

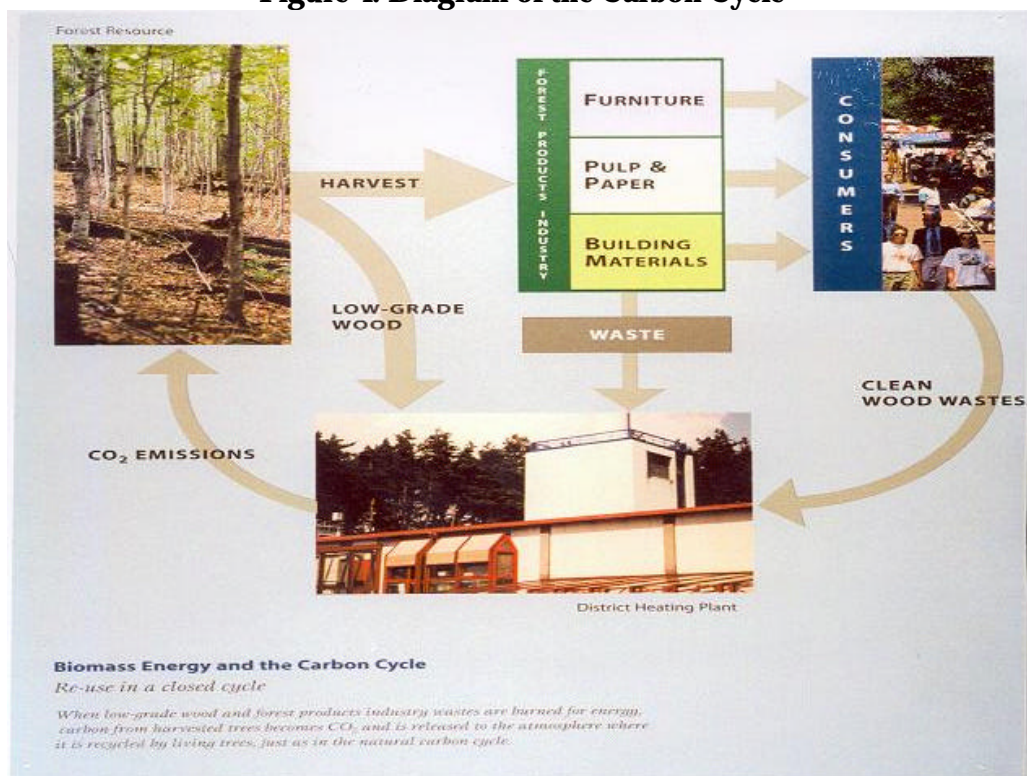
Finally, more than just money, the **Urban and Community Forestry Program** also provides training, technical assistance and recognition to these local partners to help insure the success of their projects and build the long-term local capacity for excellent urban and community forestry.

# The Promise of Biomass for the Bay State

In Massachusetts, we have an abundant supply of biomass (wood chips, sawdust and wood waste) produced by the forestry, lumber, wood working, arboriculture, construction and landscaping industries. This biomass, currently underutilized and often buried in landfills, can be an inexpensive, renewable and local source of thermal and electrical energy. The Massachusetts Bureau of Forestry **Marketing and Utilization Program** has been working to promote this use of biomass, and the recent conversion of Mount Wachusett Community College from electric heat to wood is an excellent example of the opportunities that exist. Not only are the college and the taxpayers saving significant amounts of money, but they are supporting the local economy and creating a market for an under-used forest product.

Continuing to promote biomass use, the Marketing and Utilization Program has helped secure funding for two additional bioenergy demonstration projects at Franklin and Hampshire County sawmills. For more information on these projects and their funders, visit [www.masstech.org](http://www.masstech.org). In addition, we are working on feasibility studies for several larger scale projects. These may one day soon create markets for hundreds of thousands of tons of wood chips, and they have the potential to lessen the state's dependence on foreign fossil fuels

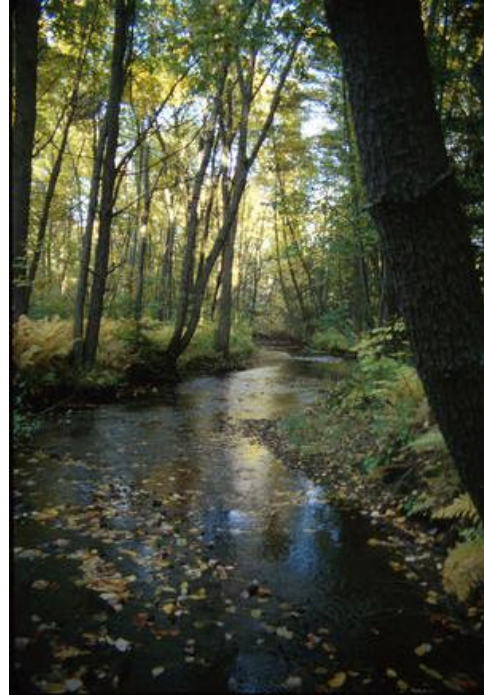
**Figure 4: Diagram of the Carbon Cycle**



## Forest Legacy Protects Two New Tracts

The Massachusetts **Forest Legacy Program** protected an additional 26 acres on two tracts in this fiscal year. Through the Legacy Program, the federal government now holds a conservation easement on the “Williams” tract, located in the “Stockbridge Yokun Ridge Reserve” Forest Legacy Area. This privately owned property consists of 14 acres of forest land adjacent to Town of Lenox Watershed Lands (1,000 acres) and two parcels owned by the Berkshire Natural Resources Council (16 / 29 acres). Several hundred acres, owned by the Massachusetts Audubon's "Pleasant Valley Wildlife Sanctuary", abuts the Lenox Watershed to the north and northeast.

The second project, the “Hatfield Watershed” tract, is located in the “Connecticut Valley (Western Valley)” Forest Legacy Area. The property consists of 12 acres of forest land. This project is part of the overall goal to protect the town of Hatfield's municipal water supply watershed and aquifer from the increasing pressures of residential development. The federal government holds a conservation easement on this property.



Key reasons for protecting this property are: it was being considered for development, its proximity to the Silvio O. Conte National Wildlife Refuge and other currently protected lands, it is within an aquifer recharge area, and it supports a native trout stream, vernal pools and other wildlife habitat areas. The protection of this property was supported by the Broad Brook Coalition, Valley Land Fund, Massachusetts Watershed Initiative, Mill River Watershed Council and the Pioneer Valley Regional Planning Commission.

# Detailed Accomplishments of the Bureau of Forestry

## Service Forestry Program

### Program Overview:

The Bureau of Forestry's Service Forestry Program accomplishes the following:

- Oversees timber harvesting under the Forest Cutting Practices Act (MGL Ch. 132);
- Administers the state's current use tax laws (MGL Ch. 61 & 61A) for privately owned forest land through certification of forest management plans, compliance monitoring, and oversight of management practices. These laws reduce property taxes on forest land when an owner commits to long-term forest management;
- Evaluates and approves management plans and practices implemented through the State's Forest Stewardship Program;
- Provides technical assistance, education and outreach to landowners, foresters, timber harvesters, municipal officials and environmental organizations;
- Cooperates with federal and state agencies, educational institutions, environmental organizations and local government on forestry-related initiatives and programs; and
- Develops and manages databases for Ch. 61, Ch. 61A, Forest Stewardship, Ch. 132 and Timber Harvesters Licenses.

### Additional 2004 Highlights

#### Chapter 132, Forest Cutting Practices Act:

- Designed to protect the public's interest in all forest lands, Massachusetts law Chapter 132 requires a cutting plan on all harvests over 25 million board feet (MBF) or 50 cords. Service Foresters review, revise, approve, issue stop orders and conduct final inspections of cutting plans. This year we reviewed:

	Plans	Acres	Volume MBF	Volume Cds.	Volume Tons
FY 04	654	27,031	61,181	45,366	21,048
5-year Ave.	687	28,604	64,767	41,850	16,302

- The Department of Natural Resources Conservation at UMass, Harvard Forest and the Bureau of Forestry are collaborating to digitize all forest cutting plans into a GIS data layer. This information will allow us to analyze the extent and degree of forest harvesting in the state.

#### Chapters 61 and 61A, Current Use Taxation Law

- As of June 30, 2004, there were 5,283 10-year Chapter 61/61A forest management plans covering 346,564 acres, or 15% of the total private forest land in Massachusetts.
- The program's growth over the last decade, particularly in Ch. 61, has been modest due primarily to development pressures and an increasing interest in Ch. 61A where there is no interest penalty for withdrawing from classification and no yield tax.

Summary FY 04	Plans	Acres		Plans	Acres
Ch. 61 New	73	5,630	Ch. 61A New	67	3,521
Ch. 61 Recertification	337	25,199	Ch. 61A Recertification	48	3,559
Total	525	37,909			

### **Technical Assistance, Education and Outreach**

- The Service Forestry Program provides a wide range of assistance to private and municipal forest landowners including demonstrations of forestry practices, state and federal program information, and referrals to Massachusetts licensed foresters. This year, Service Foresters made 240 assists and 278 referrals to licensed foresters.
- The “Got Woods? Get Advice--Call Before You Cut,” campaign was launched in 2002 to increase outreach to and contact with landowners. The first phase established a toll free “800” number that serves as a clearinghouse for forestry related questions. Service Foresters use these contacts to promote programs (e.g., Stewardship and Chapter 61), recommend the use of licensed foresters, refer landowners to licensed foresters and provide advice on forest management topics if requested. Initial results suggest that this can be a good tool for reaching landowners, and that the next phases of this program should be initiated assuming level staffing.
- Municipal Lands: The promotion of forest management through demonstration on town forest lands has long been a goal of Service Forestry outreach. In conjunction with 7 years of Forest Stewardship small grants to towns, Service Foresters assisted over 50 towns with Stewardship plans and projects.
- Logger Training: the Service Forestry Program conducts a series of workshops statewide for loggers as part of our continuing education program under Ch. 132. Partners include the Forest and Wood Products Institute at Mount Wachusett Community College, UMass Extension, Massachusetts Department of Environmental Protection, Natural Heritage and Endangered Species Program, consultant foresters and loggers. Last December, we conducted four (4) workshops on changes to the forest cutting plan with 72 loggers. This spring, we conducted eleven (11) workshops on Ch. 132 regulations featuring a new BMP Monitoring Protocol with over 300 loggers.
- Forester Training: Last fall, the Service Forestry Program staff conducted two (2) workshops for Massachusetts Licensed Foresters on the changes to the forest cutting plan with 50 foresters attending.
- The Bureau of Forestry also plays an important educational role in two major events for young people. Service Foresters have a leadership role in the state’s annual Envirothon, and conduct workshops at the annual Conservation Camp sponsored by the state’s Division of Fish and Wildlife.
- Forestry Exhibits: Service Forestry staff led the Bureau effort in developing forestry exhibits at three venues this past year, the Topsfield Fair, the Granby Charter Days celebration and the DCR Charting Our Future meeting.

### **Best Management Practices Monitoring**

- In order to monitor compliance of Best Management Practices (BMPs) at harvesting operations conducted under Ch. 132, the Bureau in developing a BMP Implementation Monitoring Protocol with the USDA Forest Service and the Massachusetts Department of Environmental Protection (DEP). With a federal Clean Water Act Section 319 grant from DEP, the Bureau hired a BMP Monitoring Forester this year to develop and test a protocol, create a field manual, and conduct workshops for loggers and foresters.

- This coming year, the BMP monitoring forester will begin testing the protocol on 80 sample sites, and the Service Forestry Program hopes to complete the project and implement statewide monitoring in FY 2005.

## **Forest Stewardship Program**

### **Program Overview**

Recognizing the public benefits of good stewardship on private forest land, the Massachusetts Forest Stewardship Program supports private forest landowners in their efforts to understand the potential of their woodlands, and manage them in ways which protect inherent ecosystem values. Specifically, the program encourages landowners to:

- Consider a balanced range of management options, within a local landscape context;
- Develop and follow a 10-year management plan;
- Seek technical assistance and professional advice; and
- Make use of available resources and services.

In following their Stewardship Plans, landowners improve wildlife habitat and forest aesthetics, protect soil and water resources, and ensure a renewable supply of high quality wood products. Through the Stewardship Program, landowners can gain access to cost share incentives from the federal Forest Land Enhancement Program (FLEP), and the Massachusetts Environmental Bond Bill. These funds, when available, can defray the cost of management plan preparation and plan implementation.

Stewardship Program activities also include workshops for landowners, trainings for natural resource professionals, bulletins and pamphlets on stewardship topics, partnership efforts, and cost-share grants when funding allows. Since the inception of the program in 1990, the enrollment has grown to 2,709 landowners and 225,400 acres, or 9.5% of the state's private forest land. This year, 430 plans were approved and an additional 33,816 acres (an increase of 18%) were enrolled.

### **Additional 2004 Highlights:**

#### **Special Outreach Initiative**

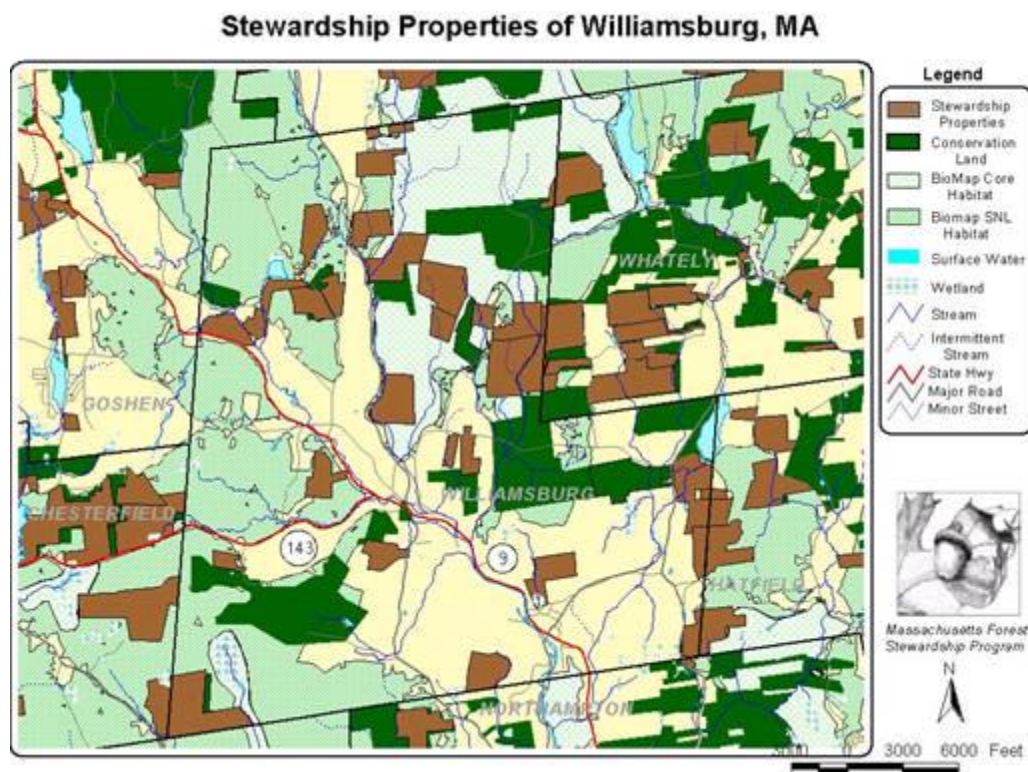
- Working closely with the Berkshire-Pioneer RC&D, we concluded a two year outreach and education initiative with \$460,000 of Environmental Bond Bill funding made available through the Executive Office of Environmental Affairs (EOEA). The overall goals of the initiative were to:
  - Maintain the flow of public benefits and ecosystem services that forests can provide;
  - Reduce the likelihood of development by encouraging long-term forest management;
  - Provide forestry and conservation information to landowners; and
  - Foster positive relationships for future conservation restriction purchases.
- Through this initiative, 9,600 woodland owners in 99 towns received information on sustainable forest management, land conservation options and sources of technical assistance. This represents 36% of the landowners not yet enrolled, but eligible for the Stewardship Program state-wide.
- Eligible landowners were offered up to 100% reimbursement for the preparation of a Forest Stewardship Plan.
- Three hundred and fifty three (353) plans were completed and approved representing 26,848 new acres in the Stewardship Program. Cost share reimbursements totaled

\$344,796. The cost per acre enrolled was \$16 (included the cost of the outreach). A majority of these landowners also enrolled in the Chapter 61 or 61A program.

- This State program has also leveraged a significant private investment in forestry. Based on a USDA Forest Service survey, these new Stewardship landowners are likely to invest as much as \$645,000 in the near term in implementing their Stewardship Plans.

### **Forest Land Enhancement Program (FLEP)**

- The 2002 Farm Bill authorized FLEP to assist non-industrial private forest (NIPF) landowners in their goals to provide sustainable forest products and safeguard the health of our water, air and wildlife. In FY2003, Massachusetts received \$221,600.
- The Massachusetts FLEP Priority Plan to promote sustainable forest management was accepted by the USDA Forest Service last fall. Some funds were used to hire a Service Forester for one year (\$69,837), and we contracted the Berkshire-Pioneer RC&D for the cost share granting, administration and education (\$151,763).
- As of June 30, 2004, 20 FLEP funded Stewardship Plans had been completed on 2,098 acres. Forty-two (42) additional plan applications have been approved for cost sharing on 2,588 acres. Approved forestry practices ranged from timber stand improvement to trail design and construction.
- We hope that federal funding for this program will continue in the future.



### **Stewardship GIS Initiative**

- Massachusetts was one of four states selected by the Northeastern Area of the USDA Forest Service to participate in a project entitled "Geo-referencing Database Development and Spatial Analysis of Forest Stewardship Tracts."

- After digitizing all Stewardship parcels, we analyzed the proximity and connectivity of existing Stewardship plans, and identified where the greatest impacts could be made in developing future Stewardship plans. This analysis overlaid existing Stewardship plans with the locations of high priority watersheds, important habitats, forest communities at risk, and areas of special management and conservation initiatives. The analysis was first used in selecting the towns for the EOE Special Outreach Initiative (see above).
- Over time, this strategic GIS analysis will produce positive cumulative effects on natural resources at a landscape level.

# State Forest Lands Management

## Program Overview:

The Bureau of Forestry manages 285,000 acres of state forest land, representing 9% of forest land in Massachusetts. Our enabling legislation says, state forests shall be “in perpetuity income producing... and managed to ‘improve’ these same forests”. Chapter 132 further defines our mission to protect the public’s interest in the both private and public forest lands of Massachusetts. These public interests include water and soil conservation, air and water quality protection, biodiversity, recreation, and a continued and increasing supply of forest products.



This **shelterwood** cut was designed to thin the non-native spruce and restore a native hardwood stand

The Bureau fulfills this state forest mission by designing silvicultural operations that produce high quality forest products, improve the future forest conditions and protect the forests’ ecological and social values.

## Additional 2004 Highlights:

### Forest Management

The following is a summary of forest management activities for the last 4 years:

Year	Foresters	Acres	Revenue	Improvements Value	Volume MBF	Volume Cords	Volume Tons
2004	10	1,874	\$1,112,050	\$131,380	7,498	5,717	5,118
2003	12	1,776	\$1,144,137	\$172,856	8,117	4,253	2,968
2002	12	852	\$642,023	\$35,026	3,295	2,676	200
2001	12	848	\$560,825	\$48,105	2,871	1,737	652

## Inventory

- The Bureau re-inventoried our Continuous Forest Inventory (CFI) plots. The Bureau will soon complete a CFI report summarizing the results. This will be made available to the public and posted on our web site. The following is a summary (approximate) of initial results of the CFI data:

Total Gross Volume:	2,600,000 MBF
Growth	71,500 MBF per year
Mortality	21,000 MBF per year
Net Growth	51,500 MBF per year

- The Bureau contracted with the James Sewell Company to procure and interpret aerial photographs of all the state forests. This information, in conjunction with CFI data, will serve as the foundation for our natural resource and forest management planning. To date, this interpretation has been completed for three districts. Quality assurance has been completed and the interpretations accepted in one district (District 6). We will complete the interpretation and quality assurance for all districts in FY 05.

### **Green Certification, Planning**

- We completed the Lower Worcester Ecoregional Assessment. This assessment identified regional issues, resource conditions and recommendations. The Ecoregional Assessment connects public and private lands across the region and helps coordinate management across private, public and agencies boundaries.
- The Federation of Women's Club State Forest Land and Natural Resource Plan was prepared, reviewed, commented upon twice, and finalized. This comprehensive plan sets the management direction for this state forest for the long-term (100 years) and implementation guidance for the next 15 years. It will serve as a model for future state forest management plans.

### **Boundary Maintenance**

- The Bureau of Forestry maintained approximately 101 miles of boundary. Management Foresters, park staff, and Student Conservation Association interns maintained these boundaries to our standards. The Bureau is prioritizing boundary maintenance and landline location to identify past trespasses and protect the public's interests. Through this work we have identified a number of trespasses and boundary surveying needs. In some instances, this has already resulted in voluntary corrective actions.
- Our goal is to maintain state forest boundaries on a 7-8 year cycle to protect our public natural resources.

### **Road Inventory and Road Condition Survey**

- State Lands Management Program initiated a comprehensive GPS road inventory and road condition survey. The goal is to inventory all roads within every state forest and conduct a condition survey of the roads, bridges, culverts, ditches, erosion, etc. This year, we completed surveys for The Federation of Women's Club and October Mountain State Forests. This information will be used to design appropriate transportation systems for management and public use, and to appropriately close, construct and maintain roads as necessary.
- Our goal is to provide you with a transportation system that is adequate, safe, and affordable, and causes minimal degradation of water quality through erosion.

### **Southeastern Massachusetts Ecological Restoration Project**

- With financial assistance from a USDA Forest Service fuels reduction grant of approximately \$900,000, the Bureaus of Forestry and Fire have initiated an Ecological Restoration and Fuels Risk reduction project at Manuel Correllus State Forest, Nickerson State Park, and Myles Standish State Forest.

- To pave the way for the ecological restoration project, UMass Professor Bill Paterson in conjunction with Bureau of Forestry and Natural Heritage and Endangered Species program staff conducted research on firelane construction, fuels reduction, rare species, invasive species and ecological restoration goals. All preliminary research work has been completed. Final data is being collected and a report is expected in the spring of FY 2005.
- This year, over 100 acres of firelane were created or maintained, and we treated approximately 67 acres to restore ecological natural processes and reduce fuel levels to acceptable levels.
- Southeastern Massachusetts state lands are highly susceptible to large-scale hazardous fires similar to Southern California. This is the first phase of an ambitious long-term program to manage your Southeastern State Forests and Parks in ways that reduce fuels to acceptable levels and are consistent with natural ecological processes.



**Prescribed burn to reduce fuel and restore ecological function**

## **Forest Health Program**

### **Program Overview:**

The Bureau of Forestry Forest Health Program provides arboricultural services for state forests and parks, and monitors and assesses factors that influence the health of Massachusetts forests throughout the state using aerial surveys, permanent sampling plots, and pheromone traps. We also maintain historical defoliation data, implement Integrated Pest Management on state and municipal lands as required by law, and assist Massachusetts 351 communities with community forest health technical assistance.

### **Additional 2004 Highlights:**

#### **Forest Health Monitoring**

- We continue to cooperate with the National Forest Health Monitoring Program of the USDA Forest Service. This year we collected data relating to lichens, soils and downed woody debris on the ten (10) plots visited with the federal crews. Additionally, we collected data from eight (8) sites to monitor for the presence of ozone injury.
- We also collected data from a series of permanent plots established to document the effects of specific insects and diseases, or to monitor the health of forest types of special concern. Specifically we visited fifteen (15) sites to monitor Hemlock Woolly Adelgid activity, three (3) sites to monitor Beech Bark Disease and six (6) sites established to monitor the health of sugar maple.
- We intend to produce a paper detailing the impacts these agents are having on our forest resource in the near future.
- In the coming year, we will develop a sudden oak death and emerald ash borer response plan in Massachusetts, in collaboration with interested publics, to address these potentially catastrophic forest pests.

#### **Hemlock Woolly Adelgid Predator Release**

- In cooperation with the USDA Forest Service, we continued to receive the predatory lady bird beetles *Sasajiscymnus tsugae* (recently renamed from *Pseudoscymnus tsugae*). This year, we released adult beetles in Monson and Sheffield as well as an experimental release of eggs in Sheffield.
- This brings the total number of release sites to eleven (11) with 64,096 insects released.
- As a part of our cooperative agreement to obtain these beetles, we are monitoring the release sites for three years. The most productive release site remains in Manchester-by-the-Sea, where both adult and immature beetles have consistently been recovered.

#### **Urban Forest Health Monitoring**

- This year is the second of a five-year USDA Forest Service project to monitor the health of the street trees in urban areas. This phase of the project requires revisiting a subset (80) of the plots established in FY 2003.
- All data are electronically collected and submitted to the program administration for analysis. No formal reports are expected until the completion of data collection.

#### **Champion Tree Program**

- This year, three trees were nominated as possible champions. Of these, two proved to be larger than the current champions and were therefore identified as new champions.

Additionally, we cooperated with the other New England State Champion Tree Coordinators to complete an updated “Champion Trees of New England” publication.



**Engagement or Wedding Tree**

### **Engagement Tree**

For many years the health of the “Engagement” or “Wedding Tree” located on Coles Hill at Pilgrim Memorial State Park has been deteriorating. Previous efforts to improve the vigor, including two applications of fertilizer and the installation of 200 feet of cable to strengthen the weakening branch structure, have been unsuccessful. This tree has become a hazard, an opinion shared by the Plymouth Tree Warden. It was our collective opinion that this tree should be removed before the tourist season.

To document the amount of decay in the tree, we conducted numerous Resistograph borings.

These borings revealed that there is a maximum of eleven inches of sound wood at one point and no sound wood at another. This information was presented at a public hearing as required by Massachusetts General Law. At this hearing the former Tree Warden, now a commercial arborist offered to absorb the cost of topping this historic tree in a last ditch effort to preserve it. This topping was conducted in early May. All wood suitable for milling into lumber was saved for use in ceremonial plaques and propagation material has been provided to the Arnold Arboretum in an attempt to propagate a replacement tree by the time the “Engagement” tree is finally removed.

### **Arboricultural Serviced to State Recreation Facilities**

- Three, two-person tree crews continue to work at keeping the active recreation area in the state park system free of hazard trees. Forest Health Supervisors performed these duties in regions where formal tree crews were not available.
- Through this effort we removed 1,369 trees, pruned 1,454 trees, and removed 28 stumps to below ground level.

### **Public Outreach**

- In our effort to provide professional arborists, municipal tree officials and the general public with the most up to date tree care information, we made formal presentations at 20 meetings reaching approximately 900 individuals. Additionally, we responded to approximately 470 telephone inquiries for information and assistance.

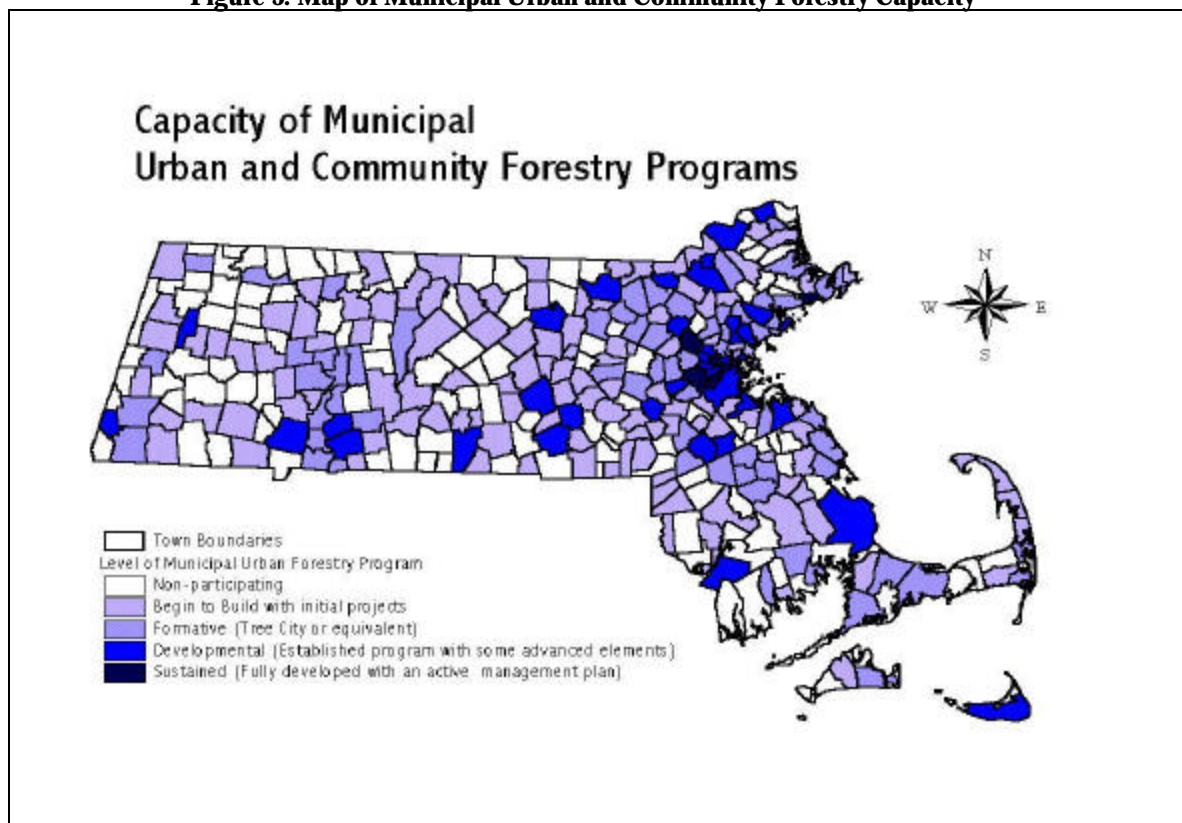
## Urban and Community Forestry

### Program Overview:

The Massachusetts Urban and Community Forestry Program (UCF) assists communities and nonprofit groups in protecting, growing and managing urban and community trees and forest ecosystems, with the ultimate aim of improving the environment and enhancing the quality of life in all of Massachusetts' 351 communities. We provide grants, technical assistance, training and recognition awards to communities of all sizes throughout Massachusetts and provide guidance on urban forestry policy at the state level.

Massachusetts currently has 76 Tree City USA communities (the highest percent in New England and New York). Of the state's 351 communities, we have determined that at least 240 are participating in developing their urban and community forestry programs. Seventy-three (73) have achieved a "formative" level, consistent with the benchmarks of the Tree City USA award. An additional forty (40) communities across the State have achieved the "Developmental" with a well established, rounded and effective urban forestry program, and we currently classify four (4) communities as having "Sustained" urban forestry programs that are fully developed, sufficiently funded, and have an active management plan.

**Figure 5: Map of Municipal Urban and Community Forestry Capacity**



### Additional 2004 Highlights:

#### Grants

- As highlighted above, the UCF program provided \$529,000 to 81 municipalities and local organizations through six grant programs.

- With a federal grant we have developed and are implementing a new initiative to “Promote Forest Stewardship for Watershed Health.” The goals of this initiative are to:
  - Quantify the value and importance of community trees and forests for stormwater management and watershed health,
  - Communicate the importance of trees and forests for healthy watersheds to local decision-makers,
  - Encourage communities to engage in forest protection, restoration, and stewardship, and
  - Improve watershed health through community forest stewardship in Massachusetts.

### **Technical Assistance**

- The UCF program continued to work closely with our established partners including the USDA Forest Service, Massachusetts Tree Wardens’ and Foresters’ Association, non-profit environmental and community development groups and municipal governments while also reaching out to new constituent groups such as citizen tree committees.
- Building upon the success from last year, we offered an expanded two day “Tree Steward Training” course at the Harvard Forest in Petersham, Massachusetts. The course provided foundation training in urban forestry and was attended by more than 30 people representing new tree committees, non-profit groups and municipalities.
- The UCF program partnered with the University of Massachusetts to conduct a one-day demonstration workshop for 25 participants on new GIS tools for quantifying the relative importance of forest lands for watershed health.
- The program hosted a presentation by the USDA Forest Service on Tree Emergency Management Planning as part of our annual Tree City USA awards program, which attracted over 120 municipal leaders and urban forestry professionals.
- In addition to these special programs, UCF staff attended municipal planning and natural resource commission meetings, worked with municipal authorities and citizen groups on tree plantings and tree management projects, provided guidance to grant recipients and gave general advice and assistance to the public.
- All in all, the program provided direct technical and financial assistance to 210 of Massachusetts’ 351 communities in FY2004.

### **Special Events, Outreach and Administrative Achievements**

- In December, UCF staff hosted a three day review of the Massachusetts program by USDA Forest Service staff. The report generated from this review highlighted several commendations for the state UCF program and offered a range of helpful ideas for program development and expansion. The only deficiency noted in the report was the need to re-fill vacant staff positions within the program.
- The UCF program worked with its key partners to restructure and reconstitute its Advisory Board. Members of the Massachusetts Community Forestry Council agreed to act as advisors to the State UCF program, providing guidance on program direction and utilization of program resources.
- In April, we hosted our annual Tree City USA awards ceremony in Plymouth. DCR Commissioner Kathy F. Abbott gave the award to a record 76 communities, giving

Massachusetts the highest percentage of Tree City USA municipalities in all of New England and New York.

- These Tree City USA communities are home to 2.1 million people and they make a combined annual investment of 11.7 million dollars in urban and community forestry.
- In partnership with the University of Massachusetts and the USDA Forest Service, the program co-sponsored the annual Massachusetts Community Tree Forum. This event drew a diverse crowd of more than 250 people from all across the state.
- The state celebrated Arbor Day on Friday, April 30<sup>th</sup>. The UCF program took the lead role in this celebration to announce the award of our Inner City Grants and a new Mass ReLeaf partnership. The event was held in Worcester and presided over by Congressman James McGovern and DCR Commissioner Kathy F. Abbott.
- As a regional leader, the Massachusetts UCF program hosted the annual Northeast Area Urban Forestry Coordinator's Organization meeting on Thompson Island in Boston Harbor. The event drew more than 40 UCF Coordinators and Volunteer Coordinators from the 20 northeast states and Washington D.C. The meeting was a huge success, with the group voting to support a number of key resolutions affecting the entire region.
- Taking a national leadership role in urban and community forestry, the DCR UCF staff also participated in the review process for a new proposed federal urban and community forestry allocation formula and a congressional investigation of the Federal UCF program.

### **Concluding Remarks**

In all of these endeavors, the Massachusetts Urban and Community Forestry program demonstrated its leadership locally, regionally and nationally, and successfully met the goals and objectives of its FY04 work plan, five-year plan and federal guidance.

## Marketing and Utilization

### Program Overview:

The Forest Products Marketing and Utilization Program (M&U) assists landowners, foresters, timber harvesters, sawmills, manufacturers and recyclers in the promotion and expansion of the forest products industry in the Massachusetts and the northeast region.

Our assistance ranges from evaluating and developing business opportunities to general technical assistance in all phases of wood product use and manufacturing. Past projects include timber bridges, wood energy use at schools, concentration yards for low-grade logs and wood industry directories.



Small diameter wood utilization

Currently, the program has a staff of one, Gordon Boyce, working out of the Berkshire-Pioneer RC&D office in Amherst.

### Additional 2004 Highlights:

- As highlighted at the top of this report, we have worked on several fronts to promote the use of Massachusetts biomass for bioenergy.
- Throughout the course of the year, the program had hundreds of requests from the general public and industry representatives for technical assistance. Those requests for assistance ranged from firewood vendors wishing to get on the state vendor list, to sawmills struggling to survive in that intensely competitive industry.
- The M&U Program works cooperatively with many state and federal agencies and non-profits including:
  - USDA Forest Service - Economic Action Program, State and Private Forestry, and Forest Products Laboratory
  - US Department of Commerce - Forest Product Export Opportunities
  - MA Export Center - Forest Product Export Opportunities
  - MA Division of Energy Resources - MA Bioenergy Working Group
  - MA Forest Products Association - Industry Assistance
  - MA Water Resources Authority - Renewable Energy
  - UMASS Department of Natural Resources Conservation
  - Forest and Wood Products Institute
  - Northeast Regional Biomass Program
  - Biomass Energy Resource Center
  - Northeast Utilization & Marketing Council
  - Forester Licensing Board
  - Northeast Lumber Manufacturers Institute

- The M&U Program hosted two conferences:
  - “Suggestions for Operating During Trying Times,” presented by Joe Denig, Wood Products Extension Specialist from North Carolina. This workshop addressed many of the issues mill owners and managers are currently facing.
  - Northeast Utilization & Marketing Council annual meeting. This week-long meeting gathered about 60 industry assistance professionals from all across the northeast, as well as USDA Forest Service and Forest Products Lab personnel in Springfield, MA.
- We worked with an Amherst company to assist them in the commercialization of a process to use small-diameter low-value round wood to produce fibrous strands. These fibrous strands can be used without further processing in erosion control products, packaging, animal bedding and nursery materials. They can also be processed into composite materials by using resins, low pressure and low temperature processes.
- We worked with state and federal legislators, the Coalition for Fair Lumber Imports and the Massachusetts wood products industry to level the playing field for Massachusetts manufacturers competing with Canadian companies for Massachusetts timber.
- The M&U Program worked with the State’s Operational Services Division to create a “Certified Wood Products” section to the “Building Materials & Supplies” RFR and contract. This gives state agencies the ability to choose “Green Certified” wood products for construction projects.

## Forest Legacy Program

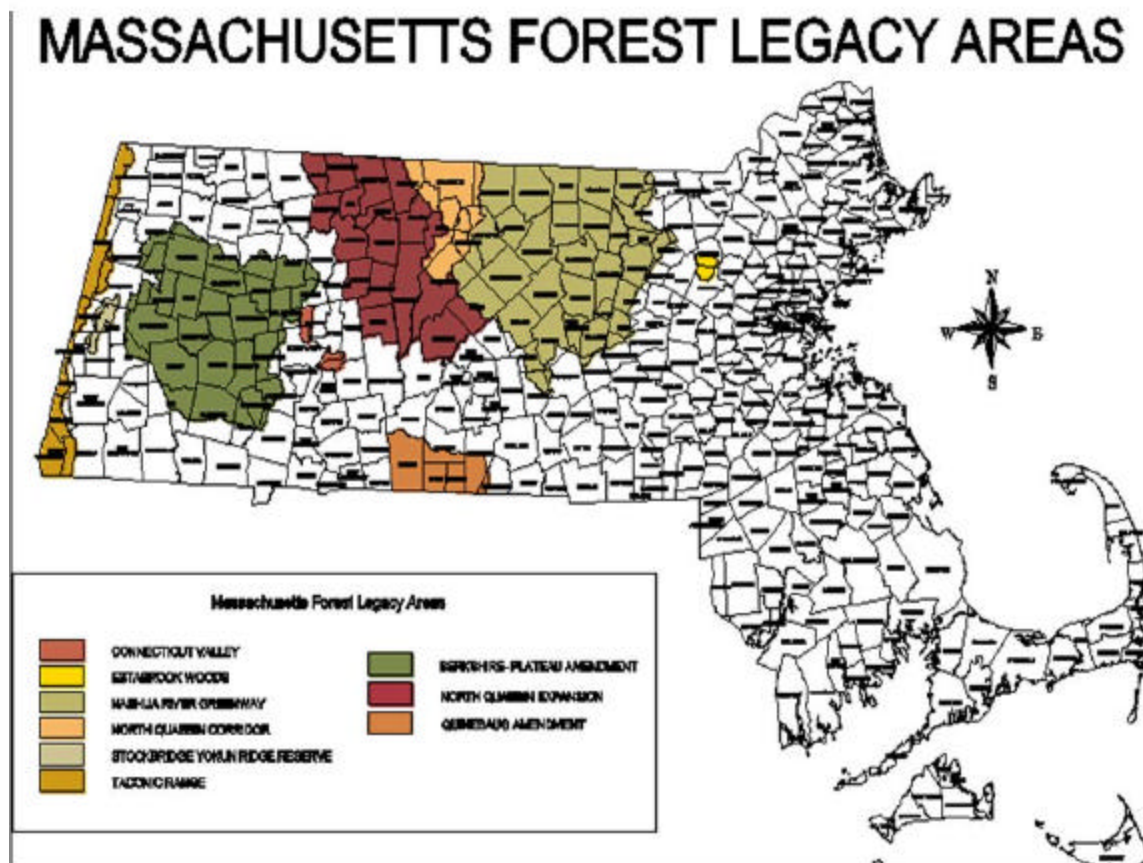
### Program Overview:

The Forest Legacy Program is a partnership between participating states and the USDA Forest Service to identify and help protect environmentally important forests from conversion to non-forest uses. The main tool used for protecting these important forests is the conservation easement. The federal government may fund up to 75% of program costs, with at least 25% coming from private, state or local sources. Massachusetts is one of 36 states that **participate** in the federal Forest Legacy Program, and the DCR Bureau of Forestry Directs this program in Massachusetts. Each participating state develops an "Assessment of Need" (AON), approved by the Forest Service. Massachusetts currently has 6 approved "Forest Legacy Areas" and has proposed two additional areas (see map below). To date \$5,214,850 of Forest Legacy funding has protected 2,999 acres on 17 tracts here in Massachusetts. The table summarizes funds appropriated for projects in Massachusetts over the last 5 fiscal years:

**Table 5: Forest Legacy Funds Appropriate to Massachusetts Projects**

FY2000	FY2001	FY2002	FY2003	FY2004
\$319,600	\$1,387,000	\$891,000	\$1,630,000	\$1,607,000

**Figure 6: Map of Forest Legacy Acres**



### Additional Program Attributes:

- State and local partners select priority tracts in cooperation with the Forest Service.
- The program is based on a "willing seller and willing buyer" concept.

- The lands or interests in land are held in perpetuity by the federal government or by the state. Conservation easements and restrictions allow the land to remain privately owned.
- Forest Stewardship Plans are prepared for all tracts. These plans meet the landowner's objectives for natural resource management and are approved by the State Forester.
- Forest Legacy Program tracts can remain "working forests" that produce forest products to meet the needs of the local community, the state, and the nation.
- All projects must meet goals and objectives set by the states ANO, describe the public benefits and list the environmental values that will be protected.

#### **Additional 2004 Highlights:**

- This year, \$104,600 of Forest Legacy funding protected 26 acres on 2 tracts.
- Two new Forest Legacy Areas ("Berkshire Plateau" and "Quinebaug") and the expansion of the "North Quabbin Corridor" Forest Legacy Area have been proposed. Approval of these areas is anticipated sometime in the fall of 2004 (see map below).

Additional information on the Forest Legacy Program in Massachusetts can be found at: [www.mass.gov/dem/programs/forestry/other/index.htm](http://www.mass.gov/dem/programs/forestry/other/index.htm).

Additional information about the federal program can be found at the "Northeastern Area USDA Forest Legacy Program" web site: [www.fs.fed.us/na/durham/legacy/](http://www.fs.fed.us/na/durham/legacy/) and at the "National USDA Forest Service Forest Legacy Program" web site: [www.fs.fed.us/spf/coop/programs/loa/flp.shtml](http://www.fs.fed.us/spf/coop/programs/loa/flp.shtml).

**Table 6: Completed Forest Legacy Projects in Massachusetts**

Project / Tract Name	Forest Legacy Area	Federal Fiscal Year (Approved)	Acres	Interests Acquired (CE / CR / Fee)	Title Holder	Total Costs (Value)	Forest Legacy Funding
2-mile Landbridge	North Quabbin	1999	467	CE	Federal	\$600,000	\$330,000
Alford Springs	Taconic Range	2001	632	CE	State	\$945,000	\$945,000
*Richmond	Taconic Range		110	CE	Non-profit	\$110,000	\$0
*Williamstown	Taconic Range		205	CE	Non-profit	\$210,000	\$0
Anciporch	Connecticut Valley	1995	106	CE	Federal	\$198,000	\$165,000
Audubon	Stockbridge Y. R.	1995	75	CE	Federal	\$180,000	\$180,000
Boudreau	Connecticut Valley	1996	56	CE	Local	\$321,000	\$240,750
Hatfield Watershed #1	Connecticut Valley	2000	12	CE	Federal	\$90,932	\$69,600
Hatfield Watershed #2	Connecticut Valley	2001	133	CE	State/Local	\$590,000	\$442,000
Holich	Connecticut Valley	1995	113	CE	Local	\$220,000	\$220,000
Hutchinson	North Quabbin	1995	490	CE	Federal	\$616,000	\$450,000
Johnson	Connecticut Valley	1997	47	CE	Federal	\$59,000	\$47,500
Kripalu	Stockbridge Y. R.	1996	225	CE	Federal	\$280,000	\$280,000
Pippin Tree	Estabrook Woods	1995	73	CE	Federal	\$7,000,000	\$1,500,000
Pumpkin Brook	Nashua River	2000	174	CE	Local	\$750,000	\$250,000
Stockbridge SC	Stockbridge Y. R.	1998	67	CE	Federal	\$60,400	\$60,000

Williams	Stockbridge Y. R.	1997	14	CE	Federal	\$38,000	\$35,000
<b>TOTALS</b>			<b>2,999</b>			<b>\$12,268,332</b>	<b>\$5,214,850</b>

\* Conservation Restrictions on the Richmond & Williamstown tracts were donated as cost-share for the Alford Springs Project/Tract.

# Appendix

## Citations

Campbell, Susan M., editor. *Quantifying Public Benefits on Private Forestland in Massachusetts*. Massachusetts Forest Stewardship Program, 2000.

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[www.mass.gov/dcr](http://www.mass.gov/dcr)  
[www.mass.gov/dem/programs/forestry/index.htm](http://www.mass.gov/dem/programs/forestry/index.htm)

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